

WHAT IS CLAIMED IS:

1. A method for prophylaxis or treatment of a patient with a disease associated with a protein having a cysteine residue that is modified by a thiol reactive agent either to modulate its function or to inhibit or promote its function, or at risk therefor, comprising administering to said patient a therapeutically effective amount of said thiol reactive agent, with the proviso that the thiol reactive agent is not NO or an NO donor.

2. The method of Claim 1 where the receptor is a serotonin receptor.
3. The method of Claim 1 where the receptor is an adrenergic receptor.
4. The method of Claim 1 where the receptor is a blood cell membrane receptor.
5. The method of Claim 1 where the receptor is a μ -opioid receptor.
6. The method of Claim 1 where the receptor is a G-protein coupled receptor.
7. The method of Claim 1 where the receptor is not G-protein coupled.
8. The method of Claim 1 where the receptor is a G-protein.
9. The method of Claim 1 where the receptor is a metabolic protein.
10. The method of Claim 1 where the receptor is a structural or adaptor protein.
11. The method of Claim 1 where the receptor is a membrane protein.
12. The method of Claim 1 where the receptor is an intracellular protein.
13. The method of Claim 1 where the receptor is a kinase.
14. The method of claim 1 where the receptor is a phosphatase.
15. The method of Claim 1 where the receptor is a cysteine protease and where the treatment would affect an allosteric cysteine but not other cysteine.
16. The method of Claim 1 where the receptor is a cyclin.
17. The method of Claim 1 where the receptor is an ion channel.
18. The method of Claim 1 where the receptor is a transcription factor.
19. The method of Claim 1 where the receptor is a respiratory protein.
20. The method of Claim 1 where the receptor is in an endothelial cell.
21. The method of Claim 1 where the receptor is in a cardiac cell.
22. The method of Claim 1 where the receptor is in a fibroblast.
23. The method of Claim 1 where the receptor is in an epithelial cell.
24. The method of claim 1 where the receptor is in a nerve cell.

25. The method of Claim 1 where the receptor is in a neutrophil.
26. The method of Claim where the receptor is in a leukocyte.
27. The method of Claim 1 where the receptor is in a platelet and is not an adenosine diphosphate receptor.
28. The method of Claim 1 where the receptor is in a bone marrow cell.
29. The method of Claim 1 where the receptor is in a skeletal muscle cell.
30. The method of Claim 1 where the receptor is in a stem cell or a stem cell lineage related cell.
31. The method of Claim 1 where the disease is an inflammatory condition which is not asthma.
32. The method of Claim 1 where the disease is a condition characterized by pathological proliferation.
33. A method for the prophylaxis or treatment of a patient with a neurodegenerative disease associated with a receptor having a cysteine residue or other cysteine containing protein that is modified by a thiol reactive agent to inhibit its function, or at risk therefor, comprising administering to said patient a therapeutically effective amount of said thiol reactive agent, provided that when the thiol reactive agent is NO or an NO donor, the NO or NO donor is administered in an amount which provides a submicromolar concentration of NO or NO donor in the patient's blood.
34. The method of Claim 33 where the thiol reactive agent is an NO donor that donates nitric oxide or a related redox species and provides bioactivity that is identified with nitric oxide.
35. The method of Claim 33 where the thiol reactive agent is not an NO donor.
36. The method of Claim 33 where the receptor is a cysteine protease and where the treatment would affect an allosteric cysteine but not other cysteine.
37. The method of Claim 33 where the receptor is in a nerve cell.
38. A method for the prophylaxis or treatment of a patient with a disease characterized by skeletal muscle atrophy, comprising administering to said patient a therapeutically effective amount of a thiol reactive agent, thereby to stimulate growth of skeletal muscle.

39. The method of Claim 38 where the thiol reactive agent is an NO donor that donates nitric oxide or a related redox species and provides bioactivity that is identified with nitric oxide.

40. The method of Claim 39 where the NO donor is S-nitrosoglutathione.

41. The method of Claim 39 where the NO donor is nitrosoallopurinol.

42. A method of prophylaxis against stroke, heart attack or ischemic disorder, comprising administering to a patient at risk for stroke, heart attack or ischemic disorder, a therapeutically effective amount of a thiol reactive agent different from NO or NO donor.

43. A method of treating a patient with a fungal disorder comprising administering to the patient a therapeutically effective amount of thiol reactive agent different from NO or NO donor which reacts with a function regulating cysteine in fungal ABC transporter or kinase which is not present in mammalian ABC transporter or kinase to kill the fungus without harming the patient.

44. A method of treating a disease associated with protein-protein interaction where at least one of the proteins has more than one function regulating cysteine in an allosteric site, comprising administering a therapeutically effective amount of a thiol reactive agent different from NO or an NO donor which is selective or effective for one of the function regulating cysteines.